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ENERGY MANAGEMENT FOR INDUSTRY



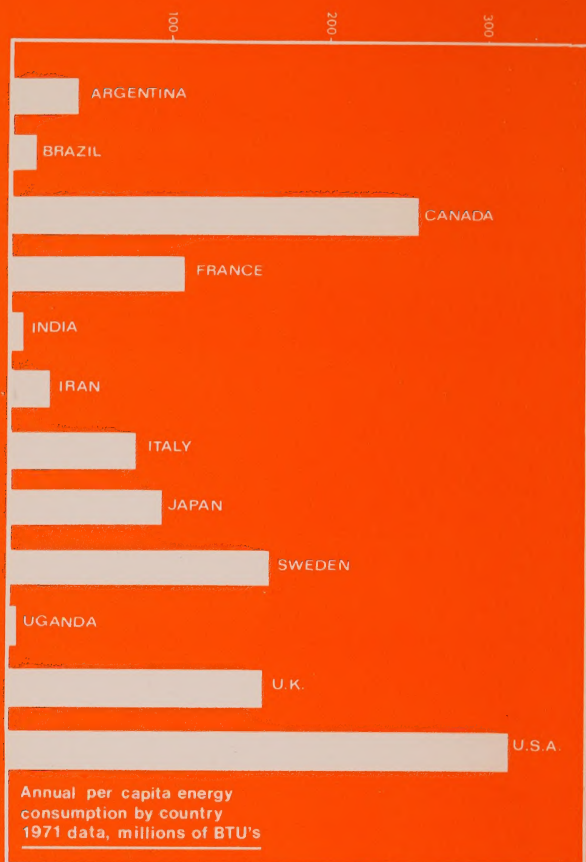
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**Ontario's
Energy Management Program.**



Ministry of
Industry and
Tourism

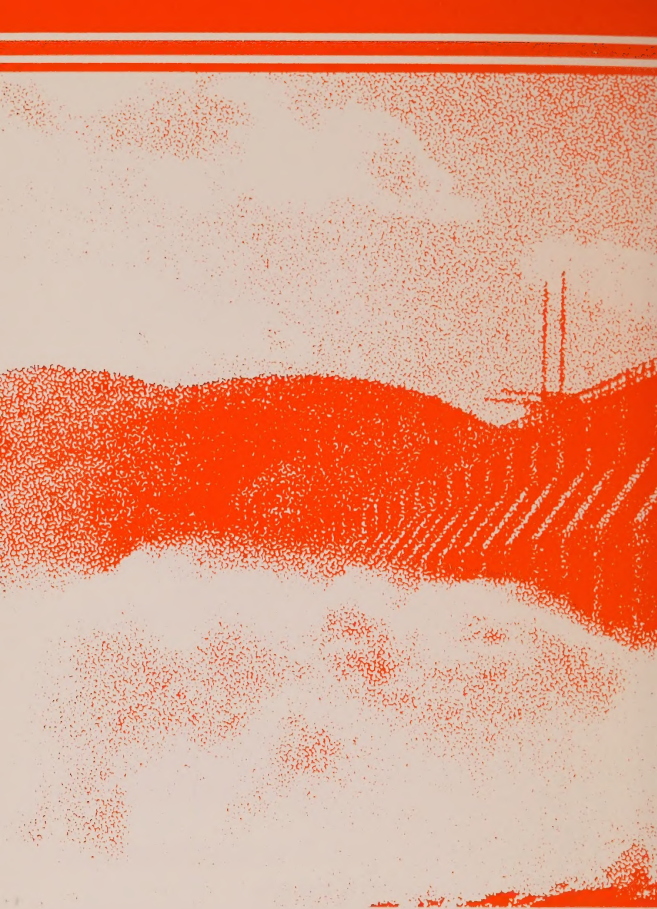
Claude Bennett,
Minister



M. L. Garland
Executive Director
Division of Industry
Ministry of Industry and Tourism

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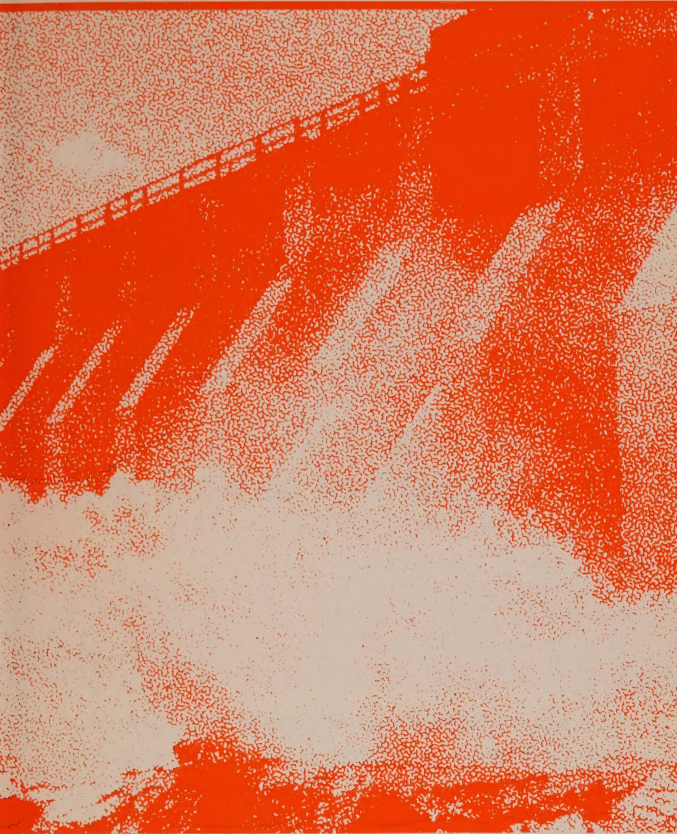


WHY MANAGE ENERGY?

Low cost electricity and fuel have contributed to Ontario's industrial growth and development.

The very abundance of energy resources at low cost has allowed inefficient use without any serious problem or inconvenience.

It is obvious that this situation will not continue. We face an early shortfall of natural gas for industrial use until Arctic gas can be delivered. Gas costs have increased sharply and will go much higher. The same is true for electricity, gasoline and fuel oil.



Of even greater effect may be the upsets and changes in buying energy in alternate forms which will accompany the shortages. Because Ontario is Canada's leading industrial province, these changes will have a significant impact on industry, and could result in serious disruptions.

There are no cheap and simple solutions. It just makes good sense for small and large companies alike to manage energy and to conserve supplies while longer term answers are found. The immediate benefits are to save money now and to an even greater extent in future.

We ask Ontario industry to show leadership and to take positive steps to manage and conserve energy to avoid future crises and to save. The sooner you start, the more you will save — this year, next year and the years after that.

Why not begin?

HOW TO START

No company program is ever stronger than the commitment which top management puts behind it or the resources allocated to make it go.

Without commitment and without resources, a program becomes just so much window dressing.

**Try this approach
(if you have not started yet).**

STEP 1

Appoint someone to spearhead the ongoing Energy Management Program. Assistance can often be solicited from plant management, accounting and engineering people.

STEP 2

Perform a complete audit of your energy use, with the units of energy expressed in basic units, as well as dollars.

STEP 3

Carefully review the audit and establish goals for annual savings. These should be:

- specific
- measurable
- challenging



STEP 4

Announce and launch the program

STEP 5

Follow-up.

You will likely find two or three major savings. The rest is a question of doing many small things which add up to a large total. Continued follow-up is the key to success and to savings!

SOME PRACTICAL SUGGESTIONS

1. Taking Stock

Energy waste is not easily seen. The first thing to do is to take stock.

Gather all available information on utilities by month for the current year, and similar year-end results for the past 3 years.

Breakdown and analyze the costs for hydro, gas, oil and water.

Find production units — lbs., gallons or cases for the same period and work out KWH/unit, BTU's/unit, etc. Draw some graphs so you can see what the trends have been.

List the money spent for maintenance, insulation, utility modifications, etc.

2. Where to Look

These are some key areas where companies have been able to make improvements.

Heating

- Improve insulation of roof and walls.
- Minimize ventilation. Close doors.
- Seal leakage around windows and doors.
- Recover flue losses (exchangers).
- Adjust and maintain furnaces, heaters or heat

exchangers for optimum performance.

- Check and recheck thermostat settings for desired control—lock if necessary.
- Reduce temperature at night or weekends to at least 17°C (62°F).
- Check for vertical heat stratification.

Lighting

- Replace incandescent fixtures with fluorescent fixtures.
- Reduce light levels where practical.
- Turn off lights when not needed.
- Lower/raise fixtures to provide optimum light use.

Compressed air

- Eliminate compressed air where not required.
- Check and eliminate leakages.

Water

- Eliminate leakage.
- Reduce excessive use of cooling water.
- Utilize waste heated water.

Electrical

- Correct power factor.
- Match motors to load requirements. Provide adequate controls.
- Check peak demand on meter. Ask your P.U.C. to install strip chart demand recorder to analyze load changes.

Maintenance

- Introduce and upgrade preventive maintenance programs of heating, power equipment, utilities, building services.



Transportation

- Improve control over shipping, receiving, material handling which will minimize consumption of energy inside and outside the plant.
- Improve scheduling of trucks and vehicles to minimize fuel consumption.

Re-use of Materials

- Capture and re-use warm cooling water or condensate.
- Re-use waste heat through recovery techniques.
- Recycle waste materials for fuel where possible.
- Recover and re-use clean or reclaimable materials.

3. Communications

It is important that plant and office personnel understand the program and its importance. They should be given ongoing information by means of bulletins, magazines, group meetings and notice boards. Unless everyone is involved, you are losing a readily available portion of savings from good practices, such as shutting windows and doors, turning off the lights, turning down heat etc.

4. Take Action

You now have the initial information on which to take action.

- Set some practical, realistic objectives.
- Prepare a priority list with the easier to achieve items at the top.
- Enlist outside help where it is needed.
- Evaluate seasonal influences.
- Prepare proposals showing expected savings.
- Set up a system to report results, preferably one involving some competition.

MINISTRY OF INDUSTRY AND TOURISM ASSISTANCE

The Ministry of Industry and Tourism through its technology branch has trained staff to assist industry initiate an energy conservation and management program.

Assistance from the ministry is available by requesting from its field officers an Energy Questionnaire which, when completed and returned to the ministry, will provide a basis of analysis and reporting of potential areas of savings.

The ministry is also providing a mobile field-support-service to give on-the-premises analysis of the use of energy and assist in the development of a complete energy audit as a basis for an ongoing conservation program. The mobile unit is being routed initially to visit those industries which have already started a program or have indicated they desire assistance. To benefit from this service contact should be made through the nearest field office (listed on page 12).



COMPANY PROGRAM

The kind of energy management program proposed in this booklet must have the complete support of the company if it is to succeed. The benefits are immediate and go directly into profits. The program applies equally to smaller companies, as well as larger ones.

The side benefits are a greater knowledge of plant and company processes and facilities which may have equally tangible rewards. We urge you to take action.



SMALL BUSINESS-OPERATIONS

To act as a network of contact points between the businessman and the specialized services of the Ministry.

FIELD OFFICES — ONTARIO

Northeastern Ontario

Sudbury

767 Barrydowne Road
SUDBURY, Ontario
P3A 3T6
Telephone: (705) 560-1330

Timmins

261 Third Avenue
TIMMINS, Ontario
P4N 1E2
Telephone: (705) 264-5393

Sault Ste. Marie

120 Huron Street
P.O. Box 1196
SAULT STE. MARIE, Ontario
P6A 5N7
Telephone: (705) 253-1103

FIELD OFFICES — ONTARIO

Northwestern Ontario

Thunder Bay

Ontario Government Bldg
435 James St. South
THUNDER BAY, Ontario
P7E 6E3
Telephone: (807) 623-9501

FIELD OFFICES — ONTARIO

Southwestern Ontario

London

Suite 607
195 Dufferin Street
LONDON, Ontario
N6A 1K7
Telephone: (519) 433-8105

Owen Sound

P.O. Box 485
Suite 104
1131 Second Avenue East
OWEN SOUND, Ontario
N4K 5P7
Telephone: (519) 376-3875

Windsor

Suite 206
875 Ouellette Avenue
WINDSOR, Ontario
Telephone: (519) 252-3475

FIELD OFFICES — ONTARIO

Central East Ontario

Fairview Office

Suite 480
5 Fairview Mall Drive
WILLOWDALE, Ontario
M2J 2Z1
Telephone: (416) 491-7680

Orillia

2nd floor, Sterling Trust Bldg
73 Mississauga Street East
P.O. Box 488
ORILLIA, Ontario
Telephone: (705) 325-1363

Peterborough

Box 386
139 George Street North
PETERBOROUGH, Ontario
K9J 6Z3
Telephone: (705) 742-3459

FIELD OFFICES — ONTARIO

Central West Ontario

Kitchener

305 King Street West
KITCHENER, Ontario
N2G 1B9
Telephone: (519) 744-6391

St. Catharines

Garden City Skyway
ST. CATHARINES, Ontario
L2R 3H7
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FIELD OFFICES — ONTARIO

Eastern Ontario

Ottawa

Suite 900
220 Laurier Avenue West
OTTAWA, Ontario
K1P 5J8
Telephone: (613) 237-6280

Brockville

143 Parkdale Avenue
BROCKVILLE, Ontario
Telephone: (613) 342-5522

Kingston

4th floor, Princess Anne Bldg
797 Princess Street
KINGSTON, Ontario
K7L 1G1
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